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The importance of early intervention: treatments for conduct disorder versus treatments for antisocial personality disorder

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This literature review focuses on both medicinal and therapeutic treatment options for Conduct Disorder and Antisocial Personality Disorder. Conduct Disorder is considered a precursor to Antisocial Personality Disorder, and research on the treatment of both of these disorders suggests that early intervention, during childhood and adolescence, is the most promising treatment option for people diagnosed with Conduct Disorder. Medicinal treatments for Conduct Disorder that are discussed within this literature review are lithium, methylphenidate, and risperidone, while the therapeutic treatments reviewed are parent management training and cognitive-behavioral therapy. Less encouraging research results have been found for the treatment of Antisocial Personality Disorder, but this review will discuss risperidone and quetiapine as researched medicinal treatments and residential treatment facilities as a therapeutic treatment for the disorder. In all areas of treatment research, further studies are needed to determine treatment efficacy.

The DSM-IV TR (2000), published by the American Psychiatric Association, is a widely-recognized source used by mental health professionals to classify mental disorders. Created for diagnostic purposes, it includes descriptions of each disorder categorized under the headings of Diagnostic Features, Associated Features and Disorders, Prevalence, and Differential Diagnosis. In consulting the manual, it becomes readily apparent that one crucial component of each disorder is lacking: treatment options. This literature review will discuss that missing component for two disorders: Conduct Disorder (CD) and Antisocial Personality Disorder (APD). The reason for exploring these disorders together is that CD is viewed as an antecedent to APD, and therefore timing of treatment becomes a factor while considering treatment options. Before delving into specific treatments for these two disorders though, it is necessary to familiarize one with the actual disorders and their symptoms, since treatments typically aim to reduce disorder symptomology. For purposes of clarity and comprehension, the disorders will be

discussed in terms of the aforementioned categories taken from the DSM-IV TR.

CD is a Disruptive Behavioral Disorder that has three main diagnostic criteria. Criteria A is that the person in question repetitively behaves in a way that violates the basic rights of others or age-appropriate societal norms. These violations are separated into four groups: aggression that causes harm to or threatens other people or animals, nonagressive behavior that results in property loss or damage, deceitfulness or theft, and serious rule violations. In order to be diagnosed with CD, three or more of these characteristics must have been present within the last year, with one of the characteristics present within the last 6 months (DSM-IV-TR, 2000). Criteria B states that the person exhibits disturbances in behavior that lead to significant impairments in his or her academic, social, or occupational functioning. Criteria C clarifies that a person may be diagnosed with CD after age 18, but only if a diagnosis of APD cannot be given. There are two onset types of CD: Childhood-onset and adolescent-onset. The main differences between the two onset types are that the childhood-onset type is diagnosed before age 10, whereas the adolescent-onset type is diagnosed after that age, and those in the childhood-onset group are usually male, show more aggression, and are more likely to develop APD later in life as compared to older onset group (DSM-IV-TR, 2000).

In terms of associated features, the DSM-IV-TR (2000) indicates that those with CD typically lack empathy or concern for others, and often erroneously view the intentions of others as malicious. Also, these people may be more likely to take part in risky behavior, such as engaging in sexual behavior at a young age, drinking, and using illegal substances. Oftentimes, those with CD are found to have Attention-Deficit/Hyperactivity Disorder (ADHD), or other Learning, Anxiety, or Mood Disorders (DSM-IV-TR, 2000). In examining general population studies, prevalence rates range from 1 to 10%, with the disorder being more widespread among males. This disorder is distinguished from Oppositional Defiant Disorder (ODD) by the persistent violation of age-appropriate societal norms and the rights of others. If criteria for both disorders are met, only the CD diagnosis is given. ADHD and CD are different in that those with both CD and ADHD may be impulsive, hyperactive, and disruptive, but those with only ADHD do not typically violate age-appropriate norms like those with CD. When criteria for both of these disorders are met, both diagnoses are given (DSM-IV-TR, 2000).

Antisocial Personality Disorder, with which many people with child-onset Conduct Disorder are later diagnosed, is a serious and rarely diagnosed personality disorder. The main characteristic of this disorder is a pervasive pattern of disregard for and violation of the rights of others. This behavior begins in childhood or adolescence, and follows the person into adulthood. The two other criteria for the diagnosis of this disorder are that the person must be at least 18 years of age to be diagnosed and he or she has to have shown some symptoms of CD before age 15. The four behavioral categories that apply to a CD diagnosis, as described above, also apply to that of an APD diagnosis (DSM-IV-TR, 2000). People with APD tend to be irresponsible and highly critical of others, while they are generally non-remorseful for wrongdoings that they commit. Some other associated features of the disorder are impulsivity, cockiness, superficial charm, and promiscuity. People with this disorder oftentimes meet the criteria for other Personality Disorders such as Borderline, Histrionic, and Narcissistic Personality Disorders. They also have a high likelihood of being diagnosed with Anxiety Disorders, Substance-Related Disorders, and Depressive Disorders. The prevalence of this disorder is approximately 3% in males and 1% in females, but the disorder has been shown to lessen in symptomology as the diagnosed individuals grow older, with a noticeable reduction specifically by their fourth decades (DSM-IV-TR, 2000).

In cases of the APD diagnosis, it can be difficult to discern this disorder from other Personality Disorders. People with both APD and Borderline Personality Disorder display manipulation, but the difference lies in their motives. People with APD are manipulative for power, money, or other material objects, whereas people with Borderline Personality Disorder are manipulative to gain attention and

nurturance. Additionally, people with APD show more aggression and emotional instability than people with Borderline Personality Disorder. People with both an APD diagnosis and a Histrionic Personality Disorder diagnosis tend to be impulsive, superficial, reckless, and manipulative, whereas people with only Histrionic Personality Disorder do not generally exhibit antisocial behavior. Lastly, people with both APD and Narcissistic Personality Disorder are stubborn, superficial, and unempathetic. The difference between the two disorders is that those with only Narcissistic Personality Disorder are not impulsive, aggressive, or deceitful, but they are needier of the attention of others than those with APD (DSM-IV-TR, 2000).

The fact that CD and APD share many of their symptoms suggests that they are very similar disorders. However, a review of the literature on the treatments of each of these disorders suggests that they have one major difference. The difference that becomes evident is that there are many more treatment options for CD than there are for APD, suggesting that it is much easier to treat the symptoms when they first surface, during the early stages of CD. This literature review focuses on examining both medicinal and therapeutic treatments for CD and APD. Medicinal approaches in treating CD that will be discussed are lithium, methylphenidate, and risperidone. These medications are not used to treat CD in its entirety, since it is so pervasive in nature, but instead are used for curtailing specific symptoms of CD. Therapy, however, does consider CD as a whole disorder, and works to improve all problematic elements within the disorder. This literature review will discuss parent management training and cognitive-behavioral therapy as two therapeutic options for CD. For APD treatments, the scope of previously conducted research is narrower, but medicinal options such as risperidone and quetiapine will be discussed as thoroughly as possible, as well as residential treatment facilities as a therapeutic treatment technique.

In considering CD and APD, especially in terms of their prevalence rates being so low, one may wonder why this area of psychology deserves immediate attention. It must be recognized though that APD, in addition to being a serious personality disorder, is also considered an equally serious social threat. Within prison settings, up to 75% of inmates are likely to meet an APD diagnosis, which holds the harrowing implication that people with APD are at high risk of committing serious criminal offenses (Hare, 1996 as cited in Reid, & Gacono, 2000). They are estimated to be responsible for over 50% of the serious crimes committed, and a 1992 study by the FBI found that 44% of the people responsible for killing an officer on duty had APD (Walker, Thomas, & Allen, 2003). These statistics paint a more powerful picture than the low prevalence rates of APD do, and illustrate the importance of treating CD before it evolves into an APD diagnosis.

Conduct Disorder

Medicinal Treatments for Specific Isolated Symptoms of CD

Lithium in treating aggression. Since CD has a wide range of symptoms, treatment providers often aim to reduce or eliminate the most severe symptoms first. One of these targeted symptoms is maladaptive aggression, which is considered serious in that it usually leads to some personal loss of the patient, the patient's family, and/or society (Steiner, Saxena, & Chang, 2003). Usually, pharmacologic treatment is given to CD patients only in cases when this type of overt aggression is the chief symptom of their disorder (Gerardin, Cohen, Mazet, & Flament, 2002). Since aggression is considered a normal and useful survival tool, physicians never aim to eliminate this characteristic in their patients. Instead, they attempt to shape it into a more adaptive characteristic. Because of the separation that exists between maladaptive and adaptive aggression, any aggression that a person with CD exhibits must be viewed in its context. An example of maladaptive aggression would be if a child walked over to another child unknown to him or her, and punched him or her in the face. This is maladaptive because the victimized child did nothing to elicit the abuse that he or she endured. An example of adaptive aggression would be if a child punched a perpetrator who was attempting to hurt his or her sibling. The

child's reaction would then be seen as adaptive because it is a protective mechanism (Steiner, Saxena, & Chang, 2003).

One pharmacologic treatment that has been repeatedly tested to combat maladaptive aggressiveness in children and adolescents with CD is lithium carbonate (Malone, Delaney, Luebbert, Cater, & Campbell, 2000), which is a mood stabilizer used to control aggression in manic-depressive patients (Gerardin et al., 2002). Although there is no licensed drug for treating CD, lithium is the most documented drug treatment for the disorder (Gerardin et al., 2002). Lithium was found, by Malone et al. (2000) to be a safe and effectual short-term treatment for aggression in children and adolescents with CD diagnoses. In this study, the Overt Aggression Scale (OAS) was used to measure aggression before and after lithium administration. Using this scale as a measurement tool, the researchers discovered that there was a statistically significant reduction in overt aggressive behavior of those with CD who received 4-weeks of lithium treatment in comparison to those who received the placebo. Sixteen of the 20 lithium recipients responded positively to lithium, whereas only 6 of the 20 placebo recipients responded positively to their treatment (Malone et al., 2000).

Although some studies conducted on lithium effectiveness show a decrease in subject aggression, many other studies show no such result. In studies by Carlson, Rapport, Patakai, and Kelly (1992), Klein (1991b), and Rifkin et al. (1997), no significant difference was found between subjects who were given lithium versus those who were given the placebo (Mpofu, 2002). Some possible explanations for these contradictions, aside from lithium producing inconsistent results, are that the samples from each of these studies drastically differed in terms of ages of the subjects and the type of patient being treated (inpatient vs. outpatient) (Mpofu, 2002). Additionally, the sample size of many of the lithium studies was too small for their results to be generalized (Weller, Rowan, Weller, & Elia, 1999). Researchers have generally accepted the idea that the usefulness of lithium in treating aggression is in need of further testing (Mpofu, 2002).

Methylphenidate in treating aggression and impulsivity. Methylphenidate (MPH), a psychostimulant, has also been tested as a possible CD-symptom reliever. There is a long history of psychostimulant use in the treatment of behavioral disorders. It is likely that research will continue in this area and that psychostimulants will remain the first choice of physicians in the treatment of CD (Mpofu, 2002). Klein et al. (1997, as cited in Shreeram & Kruesi, 2000) studied the effects of MPH on 84 children with CD and found that the medication group was superior to the placebo group in minimizing CD symptom ratings. Kaplan et al. (1990, as cited in Shreeram & Kruesi, 2000) studied the effects of MPH on male conduct-disordered adolescents, and found that it significantly reduced physical aggression in the subjects. In addition to decreasing aggression, Connor, Barkley, and Davis (2000) found that their subjects responded less impulsively to certain tasks after being treated with MPH, though no placebo comparison was made in this study. Furthermore, these researchers found that MPH usage decreased CD-symptom severity, as measured before and after treatment on the Disruptive Behavior Scale (DBS). Contradicting these positive results though are results from studies like that of Pelham et al. (1991, as cited in Shreeram and Kruesi, 2000), in which researchers found a response rate of only 50% to MPH.

Risperidone in treating aggression and impulsivity. Another medication frequently used to decrease aggression in CD patients is risperidone, an atypical antipsychotic (Findling, McNamara, Branicky, Schluchter, Lemon, & Blumer, 2000). This medication is unique in that many older children and adolescents who exhibit aggression and have not responded to other medications have responded to risperidone (Fras & Major, 1995; Schreier, 1998, as cited in Shreeram & Kruesi, 2000). Ercan, Kutlu, Cikoglu, Veznedaroglu, Erermis, and Varan (2003) and Findling et al. (2000) found that even with small doses of risperidone (as little as .25 mg/day), aggression in children and adolescents with CD was decreased. Ercan et al.'s (2003) study is especially notable in that the researchers included only subjects who were considered to have severe

CD, which was determined by high scores on both the aggression and delinquency subscales of the Child Behavior Checklist (CBCL). In this study, improvement in subjects was measured using the Clinical Global Impression (CGI) scale, which ranges from 1 to 7, 7 demonstrating the most severe manifestation of CD symptoms. At the start of the study, the mean CGI rating for the sample of 21 children and adolescents was 6.4. After 8 weeks of risperidone treatment, this rating shifted to a 3.2. The symptom of CD that seemed to decrease most in this study was aggression, but there were also significant decreases found in the impulsivity of the subjects (Ercan et al., 2003). Findling et al. (2000) compared their medication group to a placebo group, and found that the treatment group showed improvements on nearly all measures of aggressive behavior, whereas the placebo group failed to demonstrate such improvements. Although these studies seem to suggest that risperidone may be an effective treatment for aggression and other CD symptoms, limitations like subject attrition (Findling et al., 2000), and lack of double-blind placebo-controlled designs (Ercan et al., 2003) still leave questions about the effectiveness of risperidone.

Dangers of medicinally treating CD symptoms. Even if a medication is deemed in the future as a successful treatment for CD symptoms, it is necessary to weigh the medication's consequences against its actual benefits. Forming the bulk of these consequences are the side effects of the medication. Even the medications currently being tested for their effectiveness in treating CD symptoms have a list of side effects attached to them. Lithium, for instance, although seemingly helpful in reducing aggression in some CD patients, has been known to produce cognitive dulling, weight gain, enuresis (Weller et al., 1999), sedation, fine tremor, hypothyroidism, and leukocytosis (Mpofu, 2002). Psychostimulants, like methylphenidate, have side effects like loss of appetite, insomnia, nervousness, abdominal pain (Shreeram, & Kruesi, 2000), dependency, social withdrawal, and psychosis (Mpofu, 2002). With risperidone and other antipsychotic medications, side effects such as weight gain, sedation, anxiety (Shreeram, & Kruesi, 2000), and orthostatic hypotension (Mpofu, 2002) have been noted. Even potentially fatal side effects, such as fluctuating vital signs and neuroleptic malignant syndrome have been associated with antipsychotic use in the pediatric age group (Shreeram, & Kruesi, 2000). Because of the gravity of some of these side effects, physicians may want to reconsider using medication for CD unless they feel confident that the benefits will outweigh the negative effects.

Therapeutic Treatments for Conduct Disorder

Parent management training. Parent management training (PMT) is the most thoroughly investigated therapeutic technique for children and adolescents with CD (Kazdin, 2003). Behavioral methods, such as PMT, have been researched extensively over the last 30 years, and this research history has resulted in many clinicians' respect for these techniques (Hutchings, Lane, & Kelly, 2004). Many support this type of therapy because there is a belief that aggression and other behavioral problems are developed and inadvertently reinforced in the home by maladaptive interactions between parents and their children (Kazdin, 2003). This belief is supported by research that has highlighted parenting variables as factors linked with antisocial behavior early in life, as well as subsequent delinquency (Campbell, 1995; Loeber & Jay, 1994; Patterson, Reid, & Dishion, 1993; Reid, 1993, as cited in Hutchings, et al., 2004). Therefore, PMT has been designed to make parent-child interactions more positive.

PMT has been studied in connection with children and adolescents ranging from ages 2 to 17, and these studies have included a wide range of conduct problem severity within their subjects (Kazdin, 2003). One subtype of PMT, known as Parent-child interaction therapy (PCIT) has been tested on children as young as preschoolers who display early behavioral problems (Nixon, Sweeney, Erickson, & Touyz, 2004). PCIT is based on Hanf's (1969) model of parent-training (as cited in Sheldrick, Kendall, & Heimberg, 2001) and was designed to teach parents how to play positively with their children and interact with them in a way that will modify unwanted behavior. It also presents parents with precise behavior management strategies, such as clarifying instructions to their children, and punishing them appropriately for their

misbehavior (Nixon et al., 2004). Nixon et al. (2004) found that PCIT was more effective than non-treatment in improving the behavior of conduct-disordered preschoolers, and that this positive effect could still be seen in most of the children two years after the therapy ended. This study differs from other studies conducted on PCIT because it followed the subjects for a considerable amount of time after therapy, whereas other studies have only illustrated the short-term benefits of PCIT (Eyberg et al., 2001; Funderburk et al., 1998, as cited in Nixon et al., 2004). However, Nixon et al. (2004) failed to include a comparison group in their follow-up measurements, so it is unclear if the lasting behavior improvements were due to the treatment, or to another factor, such as subject maturation (Nixon et al., 2004).

PMT, in comparison to PCIT, is a more structured and comprehensive type of instructional therapy. It is based on the social learning theory, and integrates the concepts of time-out, positive reinforcement, and contingency contracting into treatment (Kazdin, 1993 as cited in Hutchings et al., 2004). Explicit booklets have even been developed describing how to implement PMT for different age groups. The skills taught in this type of therapy can reach parents through a variety of mediums: through the therapist meeting with one or both parents, or through the therapist providing the parent(s) with informational videos (Frick, 2001). Although each of these variations has been shown in different studies to have a positive effect on conduct-disordered children, meeting with both parents seems to be most effective (Webster-Stratton, & Hammond, 1997; Webster-Stratton et al., 1988, 1989 as cited in Farmer, Compton, Burns, & Robertson, 2002). The informational video option provides an alternative for parents who cannot afford many therapy sessions. Research on these videos indicates that they can be effective in behavior control of children, however they do not seem to be as helpful as face-to-face meetings between the parents and the therapist (Farmer et al., 2002).

PMT is based around the idea that parenting styles that include nagging, inconsistent discipline, ineffective punishments, and minimal positive parental involvement play a significant role in the development and maintenance of childhood behavioral problems. The PMT design specifically targets these characteristics within parent-child interactions and attempts to obliterate them and replace them with more effective approaches (Hutchings et al., 2004). In the office, PMT combines sessions where the therapist meets with the parent(s) alone to teach them various parenting skills with sessions where the child is present for the parent(s) to practice their learned techniques on. PMT sessions teach parents about different stages of child development and how they should treat their children during each stage to assist them in developing a positive social-emotional identity (Mabe, 2003). Therapists teach parents how to extinguish any antisocial characteristics their children may exhibit, and how to replace these characteristics with prosocial ones through positive reinforcement. Parents are advised on how to structure their interactions with their children by setting limits, responding appropriately to their children's' negative emotions, and communicating their requests to their children effectively (Mabe, 2003). Also, parents learn what types of disciplinary action work best in behavior control, and how to time their discipline to make it more successful. This forces parents to see their children's behavior in a broader context, and provides a practical conceptualization of what effect the familial environment can have on a child's behavior (Frick, 2001). By adopting this social-ecological stance on behavior, parents begin to recognize that many factors and systems (like the child's home and school system) come together to influence their child's behavior. Recognizing this can help parents see the need for their inclusion in their child's treatment (Borduin, 1999).

Hutchings et al. (2004) conducted a four-year follow-up study comparing two types of PMT for 41 2-10 year-olds. One type was a standard form of PMT, while the other was an intensive form. The intensive form differed from the standard in that it lasted for 25 hours instead of only 7 hours, and it gave parents a chance within therapy to practice what they were being taught, and directly experience the success of their newly acquired skills. This study found that both forms of PMT were successful in reducing conduct problems in the children, but that

the intensive form elicited a more significant and lasting change. This adds to the evidence base that therapy involving parental training and rehearsal of child-management techniques has a better outcome than more didactic and less interactional types of therapy, where parents do not experience as much collaboration with the therapists. Also, the researchers found that the therapy administered in this study had a more noticeable effect in the younger children, suggesting that the earlier the intervention, the more successful it is (Hutchings et al., 2004).

Cognitive-behavioral therapy. Another therapy used for treating CD is cognitive-behavioral therapy (CBT), a form developed by Beck et al. (1979) and Ellis (1962) (both cited in Broota, & Sehgal, 2004). Since CD falls under the umbrella of Disruptive Behavioral Disorders, CBT aims to help clients control their behavior by becoming aware of their thought processes before reacting to situational cues. Studies on the perceptions of conduct-disordered children show that these children differ from children without CD in the way that they interpret their environments (Van de Weil et al., 2002). Conduct-disordered children are more likely to selectively direct their attention towards hostile social cues, therefore heightening the likelihood that they will respond in an aggressive manner to their environments (Van de Weil et al., 2002). Even in ambiguous situations, children with CD tend to interpret situations as threatening to them, showing a deficit in their social cognition (Frick, 2001). They are also less likely than children without CD to spawn solutions to social problems (Van de Weil et al., 2002).

CBT is designed to lead children through exercises that encourage them to encode and interpret all situational cues, and to formulate and act upon situation-appropriate goals (Van de Weil et al., 2002). CBT, like PMT, uses a skills-building approach, but CBT works predominantly with children as opposed to parents. Moreover, most CBT programs are designed to accommodate clients in group settings (Frick, 2001). Although children do not get as much individual attention when combined with other children, group-based skills training sessions such as these have at least two important benefits. First, group meetings are more economical than individual meetings for clients. Second, group-based skills training has been shown in numerous studies (Cavell, & Hughes, 2000; Beelman et al., 1994; Kavale, Mathur, Forness, Rutherford, & Quinn, 1997; Schneider, 1992, as cited in Ang, & Hughes, 2002) to produce larger benefits than individual-based skills training. Something interesting to note about this group setting though is that in many of these studies, it was found that conduct-disordered children improve more behaviorally when they are mixed in groups with children who do not have CD, instead of being treated in a group consisting only of children with CD or antisocial behavior (Ang, & Hughes, 2002).

Therapists administering CBT play a very active role in the treatment process by modeling the skills they are teaching, providing prompts for certain behaviors, role-playing with the children, and providing feedback and praise when the children use skills appropriately (Frick, 2001). Many CBT group programs also incorporate a token economy into their treatment plan, because it fits with the theme of operant conditioning and has also shown signs of being effective in improving the behavior of non-responsive youth with CD (Field, Nash, Handwerk, & Friman, 2004). In CBT, therapists attempt to convey genuineness to their clients, so their clients will trust them, hopefully leading to them being less resistant to change. Also, anger management and emotion control are two topics that are extensively addressed within therapy (Broota, & Sehgal, 2004).

Broota and Sehgal (2004) performed a study including 80 children with discipline and conduct problems where they compared results from four treatment groups: CBT treatment only, parental counseling only, CBT plus parental counseling, and unrelated conversation only (the control group). Pre- and post-treatment, they took measurements of factors such as childhood psychopathology, anger expression, and parental discipline, and across all of their measurements, there was a significant positive change in all three of the treatment groups. Although they found CBT to be an effective treatment in comparison to the control group, the treatment that yielded the best results was CBT plus parental counseling, suggesting that the solution to treating

CD may lie in attacking it from all different angles at once (Broota, and Sehgal, 2004). Rohde, Clarke, Mace, Jorgensen, and Seeley (2004) did not find CBT to have such a positive effect on CD in their 93 adolescent subjects though. They studied CBT in relation to adolescents who were diagnosed with comorbid Major Depressive Disorder (MDD) and CD, and found that the therapy reduced MDD symptoms, but did not have an effect on the course of CD during or post-treatment. One possible explanation for this is that the form of CBT administered to the subjects was tailored in some ways to reducing MDD symptoms, so this may have taken away from any treatment components that could have positively affected CD symptoms (Rohde et al., 2004).

Limitations to CD therapy and research on therapeutic treatment. The most common therapy-related problem is that between 40-60% of people who begin therapy do not complete treatment (Wierzbicki & Pekarik, 1993 as cited in Kazdin, 2003). Despite therapists' best efforts to make sessions as engaging as they can for parents, client drop-out rates are an especially prevalent problem with PMT treatment (Frick, 2001). Miller and Prinz (2003) specifically set out to study engagement of families in the treatment of childhood conduct disorders, and identified different possibilities for why parents may truncate PMT treatment. They found that families that completed treatment were more likely to have approached treatment with internal expectations, believing that treatment would address issues within the family, such as parenting style. In contrast, those parents who dropped out of treatment were more likely to have demonstrated external expectations of treatment, believing that the treatment would focus more on the child and his or her behavior. These latter parents may have felt that treatment was not focusing enough on what they considered to be the root of the problem, or in other words, their child's behavior. This idea implies that therapy style is not the only factor that influences treatment outcome. Also important are the attitudes, attributional styles, and motivations of the parents involved (Miller, & Prinz, 2003).

Another problem with the research on PMT effectiveness is that although it seems beneficial, it has not been studied in direct comparison to other therapies. Therefore, researchers and clinicians have failed to determine if PMT is superior to other forms of therapy used to treat CD (Van de Wiel, Matthys, Cohen-Kettenis, & Van Engeland, 2002). Although PMT has supportive research results on its side, something to consider is that researchers and therapists have yet to fully understand the mediating factors for its success, which does not bode well for improving what is already being practiced (Remshmidt, 2003). Another barrier to PMT treatment was identified in a study conducted by Kazdin and Wassell (1999). These researchers considered demographic factors that may play a role in how receptive children are to PMT treatment, and found that socioeconomic disadvantage, parental stress, and parental psychopathology predicted inferior treatment outcomes (Kazdin, & Wassell, 1999). This shows that factors external to treatment may also have to be addressed within treatment for any type of behavior resolution to be reached.

In terms of CBT research, most studies addressing this issue lack follow-up measurements, so the long-term effect of this treatment type remains undetermined. Also, CBT seems to work best with older children and adolescents than with younger children, perhaps indicating that a person may need to be at a certain stage in his or her cognitive development before being exposed to CBT (Van de Weil et al., 2002). Many times therapists encounter difficulty in getting their clients to practice the skills they are taught outside of treatment, in their normal environments, which may negatively impact the endurance of this treatment (Frick, 2001).

Antisocial Personality Disorder

Medicinal treatment for specific isolated symptoms of Antisocial Personality Disorder

Since APD is a personality disorder, and personality is a relatively stable characteristic, there is not much evidence that medicine helps in treating the disorder. Because of the low prevalence of APD, most published research on medicinal treatments for the disorder has been in the form of case studies. One very successful case study conducted by Hirose (2001) focused on a 32-year-

old man who was hospitalized for severe APD. After receiving 3 mg/day of risperidone, he experienced a noticeable reduction in aggression and impulsivity, and for the first time in his life, was able to maintain a job (Markovitz, 2004). These results cannot be generalized though because only one person was treated, and treatment success of this kind is very rare with APD. Walker, Thomas, and Allen (2003) studied the effect that quetiapine, an atypical antipsychotic, would have on treating impulsivity, aggressiveness, and irritability in APD patients. They found that quetiapine was successful in reducing these characteristics in the APD patients, and it did so with very few side-effects. However, this study only included 4 subjects and long-term effects were not measured, which limits the reliability of the results. Additionally, even if quetiapine is labeled in the future as an empirically supported treatment for APD, very few treatment facilities (especially prisons and jails, where most people with APD are treated) will have the funds necessary to dispense this treatment (Walker, Thomas, & Allen, 2003).

An issue that often arises while attempting to medicinally treat APD is that many patients with an APD diagnosis are drug-seeking, and have a history of drug abuse. This poses a problem because they tend to reject drugs that do not produce a euphoric effect, and often seek out drugs that they have been addicted to in the past, instead of ones that actually help any APD symptoms they are exhibiting (Walker, Thomas, & Allen, 2003).

Residential Treatments of Antisocial Behavior and Antisocial Personality Disorder as a Whole

Although APD is defined in the above introduction, it is important also to define antisocial behavior more generally. In providing this definition, we are recognizing that a person who demonstrates antisocial behavior does not always go on to demonstrate all criteria necessary to meet an APD diagnosis. Antisocial behavior can most simply be defined as behavior that lacks empathy or regard for others, as well as a distinct inability to adjust to behavioral norms and expectations, which are usually standardized by society (Frankfort-Howard, & Romm, 2002). To help clarify the distinction between antisocial behavior and APD, antisocial behavior can be viewed as a symptom of both CD and APD, but even if a child or adolescent with CD displays antisocial behavior, he or she cannot be diagnosed with APD until after age 18. Additionally, antisocial behavior, as defined above, is only one of the many diagnostic criteria for APD (DSM-IV TR, 2000).

For those children who display antisocial behavior and are left untreated, the risk of being diagnosed later in life with APD is rather high. It is estimated that 40 to 50% of these children will go on to become antisocial adults (Robins, 1966, as cited by Frankfort-Howard, & Romm, 2002). This statistic implies that antisocial behavior is an urgent social issue, yet there are very few noteworthy solutions to this problem (Wong, 1999). To reduce these numbers of what Caspi and Moffitt (1995, as cited in Frankfort-Howard, & Romm, 2002) refer to as "life course persistent" cases of antisocial behavior, residential treatment programs are oftentimes recommended, or in criminal cases, required by law. Many clinicians believe that this type of environment provides the secure and controlled atmosphere necessary to facilitate behavioral change (Wong, 1999). These programs are specifically designed to target the pervasive nature of antisocial behavior, and may include components such as school courses, occupational training, and social skills assistance. In addition to these offerings, residential treatment facilities usually include some combination of therapeutic activities, such as individual or group counseling, family counseling, community meetings, cognitive and behavioral programs, volunteer activities, and tutoring (Frankfort-Howard, & Romm, 2002). These programs, which are often referred to as multisystemic or multiple system therapy (MST) programs, have been reported by many clinicians as the most successful preventative treatment options for APD (Reid, & Gacono, 2000). Unfortunately, although deemed "most successful," these programs often prove too costly for the modest benefits they produce (Wong, 1999).

Although many residential programs have been designed to decrease the prevalence of life persistent antisocial behavior and APD, research about their effectiveness is limited. One reason for this limited

scope is that a longitudinal study, the type of study that would most clearly and thoroughly illustrate the effects of residential treatment centers, is very costly and funding is lacking for well-designed studies of this type. In addition to this, many of the studies that have been conducted are flawed by methodological problems including nonexistent control groups to compare results to, debatable rater subjectivity, and differences in outcome definition and measurement (Curry, 1991 as cited in Frankfort-Howard, & Romm, 2002). Many studies also include a sample size too small to generalize the results found (Messina, Wish, Hoffman, & Nemes, 2002). There have also been problems in understanding and replicating components within treatment facilities that may be useful, because many studies that focus on treatment outcome fail to provide in-depth descriptions of treatment procedures and client characteristics (Wong, 1999). These issues make it difficult to move forward in terms of improving treatment, because there is such little evidence of what has worked in the past, and if any evidence of that sort does exist, it is difficult to determine why those certain treatments were effective.

Research results in this area vary, but much of what has been found does not allude to promising outcomes for children who display antisocial behavior. For example, Knapp, Schwartz, and Epstein (1994, as cited in Frankfort-Howard, & Romm, 2002) conducted a five-year longitudinal study on male delinquents that had been released from a Michigan residential treatment program. They found that 20% of the sample was sentenced to adult prisons, the majority of this group being imprisoned within three years of their release from treatment. A more descriptive study (Asarnow, Aoki, & Eslon, 1996, as cited in Frankfort-Howard, & Romm, 2002) focused for four years on 51 boys who had previously been released from residential treatment programs. This study was aimed at determining the likelihood of these boys being admitted to another treatment facility after being released from their previous one. In this study, researchers found that 32% of this group was at risk for out-of-home treatment by the end of their first year, 53% by the end of their second year, and 59% by the end of their third year out of their residential treatment programs. It was also discovered that 82% of these boys needed special education services post-treatment, as well as 57% of them needing out-patient therapy. These results suggest that delinquent and antisocial young people show a need for long-term treatment options in order to decrease recidivism and continuation of maladaptive behaviors (Frankfort-Howard, & Romm, 2002).

Generally, the most optimistic research suggests that inpatient programs that treat young antisocial offenders for a year or longer are more effective than ones attempting to treat antisocial adult offenders (Reid, & Gacono, 2000). However, Kazdin's 1989 study (as cited in Wong, 1999) reported optimistic findings after just 2 to 3 months of inpatient psychiatric care. Using behavior checklists and clinical inventories before treatment and comparing them to the same measurements one month, one year, and two years after the treatment, Kazdin found that there were statistically significant improvements on nearly all of the clinical measures, especially measures that indicated reductions in aggressive and hostile behavior (Wong, 1999).

While treatment options for antisocial behavior on its own appear to lack consistency and promise, options for APD are even less encouraging. Most treatment designed to target this disorder focus on specific behaviors of the disorder, instead of the disorder as a whole. Some such behaviors include substance abuse and violence (Reid, & Gacono, 2000). Long-term correctional settings seem to have little effect on symptoms of APD that are characterologically based, but they do seem to reduce criminal recidivism and drug abuse, which are two symptoms frequently observed in people with APD (Reid, & Gacono, 2000). Many studies focused on the reduction of such APD symptoms found that treatment completion in residential settings was the highest predictor of reduced drug use and post-treatment arrests (Messina, Wish, Hoffman, & Nemes, 2002; DeLeon, 2000, as cited in Messina et al., 2002). From these studies, and other residential treatment studies, it is unclear what factor within the treatment completion influences outcome the most though. Some factors to consider are patient compliance and the dose of each specific service received within the therapeutic community

(Messina, Wish, Hoffman, & Nemes, 2002). The most successful programs seem to combine consistent clinical and correctional techniques, and pattern their systems around a hierarchical privilege system, intolerance for rule breaking, and a strict encouragement to complete the program regardless of the length of the patients' sentence (Reid, 1981; Reid & Burke, 1989 as cited in Reid & Gacono, 2000).

At the time of their research, Reid and Gacono (2000) found only one study that illustrated any real success with treating adults with APD in a residential setting. This study, organized by Messina et al. (1999), reported that substance abusers with APD responded well to both standard and abbreviated residential treatments. Their success was measured by the reduction in their drug abuse and recidivism rates, but follow-up in this study was limited (Reid, & Gacono, 2000).

Although this lack of hopeful research makes it easy to jump to the conclusion that people with APD are untreatable, it is necessary to look at other factors that may be influencing treatment outcome. For example, many studies report that the people being observed left treatment prematurely, which could have easily impacted their outcome negatively (Reid, & Gacono, 2000). It is also important to note that there is a general consensus among social scientists and treatment providers that the nature of APD makes it unlikely that anyone with the disorder will change their behavior (Messina, Wish, Hoffman, and Nemes, 2002). This pessimism amongst especially treatment providers could account for the treatment options already in effect not being successful. If treatment facilitators are going into their jobs with defeatist attitudes of the sort, treatment could be negatively affected.

From the research reviewed, it seems that it is more likely to witness behavior change when antisocial behavior is treated in children and adolescents than when it is treated as a symptom of APD later in life. While treating APD, some evidence exists that certain symptoms, such as drug abuse and criminal behavior can be reduced, but the disorder as a whole appears unshakable.

Future Research and Conclusions

In reviewing the evidence for and against different treatments for CD and APD, two ideas become obvious. The first idea is that all treatments that have been tested have produced mixed results, and because of this lack of consistent support, no one treatment can be accepted by clinicians and physicians. The second idea is that out of the treatments that have been tested, more promising results have surfaced for the treatment of CD, indicating that it is an easier disorder than APD to combat, and that early intervention should be a goal of physicians and clinicians handling children and adolescents with CD. In conclusion, research should be continued in the area of treating CD and APD, with a special focus on intervention to prevent APD from developing later in life. For those who already have an APD diagnosis, research should be continued regarding the use of psychotherapy for treatment, since this type of research is still in its beginning phases (Kopta, Lueger, Saunders, & Howard, 1999).

An issue to consider in future research designs is the fact that CD is so frequently comorbid with other disorders. Research shows that in most cases, treatment specificity is needed in cases where comorbidity exists, and that perhaps specific treatment programs for different disorders should be created (Rohde et al., 2004). Even in cases where comorbidity is not present, children and adolescents with CD respond so differently to treatment options that it may be necessary for psychotherapists to design treatment programs on a case-by-case basis, which is problematic because within their training, there is a push towards standardized treatment (Chambless, & Ollendick, 2001). In regards to treating APD, society should first work to obliterate the negative connotation that is attached to the disorder. People with this disorder are often viewed as "morally deranged," and by labeling them as so, we are perhaps implying that their immorality makes them undeserving of treatment. It is possible that this perspective may be blocking us from taking steps forward in identifying an effective treatment for APD (Smith, 1999). Since it is estimated that so many crimes are committed by people with APD, the

disorder obviously presents a huge social problem that needs serious attention and further research devoted to it (Walker, Thomas, & Allen, 2003).

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